

Notice of Allowability	Application No.	Applicant(s)
	10/037,925	SHEKEL ET AL.
	Examiner Gordon J Stock	Art Unit 2877

-- **The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTO-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to correspondence of 2/24/04 and interview 2/25/04.
2. The allowed claim(s) is/are 8-10 and 14.
3. The drawings filed on _____ are accepted by the Examiner.
4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some*
 - c) None
 of the:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date 20031208.
7. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>20040225</u>. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
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EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a personal interview with Mr. Sanford Colb on February 25, 2004 (see attached Interview Summary). The following changes to the drawings have been approved by the examiner and agreed upon by applicant: see attached proposed drawing corrections to Figs. 1, 4a, 12, 18, and 20 from personal interview on February 25, 2004 that traverse drawing objections of Paper 20031208. In order to avoid abandonment of the application, applicant must make these above agreed upon drawing changes.

Examiner's Amendment to the claims:

Cancel claims 1 – 7, 11 – 13 and 15 – 54 without prejudice.

8. (Amended) A method of alignment, comprising the steps of:

holding a first optical element in opposition to a second optical element for interalignment therewith, said second optical element including a plurality of receivers including a first marginal receiver and a second marginal receiver, said first optical element having a first axis and a second axis, and said second optical element having a third axis and a fourth axis;

detecting a plurality of light signals that pass from said first optical element to said second optical element, said light signals including a first light signal that impinges on said first marginal receiver, and a second light signal that impinges on said second marginal receiver;

in a first phase of operation rotating said first optical element about a Y-axis until said second axis is in a parallel alignment with said fourth axis; and

in a second phase of operation displacing said first optical element along said Y-axis;

while displacing said first optical element along said Y-axis, recording a signal strength of said first light signal and said second light signal; and

displacing said first optical element along a Z-axis until said signal strength has an optimal value,[The method according to claim 1] further comprising the steps of:

in said first phase of operation displacing said first optical element stepwise on an interval of said Z-axis, defining a plurality of incremental positions thereon;

at each of said incremental positions displacing said first optical element on an interval of said Y-axis;

while said step of displacing said first optical element on said interval of said Y-axis is being performed, determining a function of said first light signal and determining a [said] function of said second light signal;

after said step of displacing said first optical element stepwise on said interval of said Z-axis has been performed, determining a first point on said Z-axis where said function of said first light signal has a first optimum value and a second point on said Z-axis where said function of said second light signal has a second optimum value;

calculating a difference ΔZ between said second point and said first point;

responsive to said step of calculating rotating said first optical element about said Y-axis to reduce a distance between said first marginal receiver and said second point.

9. (Original) The method according to claim 8, wherein said step of rotating said first optical element about said Y-axis comprises rotation by an angle θ that is given by

$$\theta = \sin^{-1} (\Delta Z/d)$$

where d is a displacement between said first marginal receiver and said second marginal receiver.

10. (Original) The method according to claim 8, wherein said function is a full-width half maximum, said first optimum value and said second optimum value are each a minimum value of said function.

14. (Amended) A method of alignment, comprising the steps of:

holding a first optical element in opposition to a second optical element for interalignment therewith, said second optical element including a plurality of receivers including a first marginal receiver and a second marginal receiver, said first optical element having a first axis and a second axis, and said second optical element having a third axis and a fourth axis;

detecting a plurality of light signals that pass from said first optical element to said second optical element, said light signals including a first light signal that impinges on said first marginal receiver, and a second light signal that impinges on said second marginal receiver;

in a first phase of operation rotating said first optical element about a Y-axis until said second axis is in a parallel alignment with said fourth axis; and

in a second phase of operation displacing said first optical element along said Y-axis;

while displacing said first optical element along said Y-axis, recording a signal strength of said first light signal and said second light signal; and

displacing said first optical element along a Z-axis until said signal strength has an optimal value, [The method according to claim 1] further comprising the steps of:

in a first iteration: displacing said first optical element on an interval of said Y-axis;

while said step of displacing said first optical element is being performed in said first iteration, determining a first point on said Y-axis wherein said first signal has a first maximum magnitude, and a second point on said Y-axis where said

second signal has a second maximum magnitude [determining a first magnitude of a second signal at said first point];

rotating said first optical element about said Z-axis by a first increment;

in a second iteration: displacing said first optical element on said interval of said Y-axis;

while said step of displacing said first optical element is being performed in said first iteration, determining a third point on said Y-axis wherein said first signal has a third maximum magnitude, and a fourth point on said Y-axis where said second signal has a fourth maximum magnitude [determining a first magnitude of a second signal at said first point];

responsive to a difference between said third [first] magnitude and said [second] fourth magnitude, rotating said first optical element about said Z-axis by a second increment.

Allowable Subject Matter

1. **Claims 8-10 and 14** are allowed.

2. The following is an examiner's statement of reasons for allowance:

As to **claim 8**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method of alignment "determining a first point on said Z-axis where said function of said first light signal has a first optimum value and a second point on said Z-axis where said function of said second light signal has a second optimum value; calculating a difference ΔZ between said second point and said first point; responsive to said step of calculating rotating said first optical element about said Y-axis to reduce a distance between said first marginal receiver and said second point" in combination with the rest of the limitations of **claims 8-10**.

As to **claim 14**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method of alignment “responsive to a difference between said third magnitude and said fourth magnitude, rotating said first optical element about said Z-axis by a second increment,” in combination with the rest of the limitations of **claim 14**.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Fax/Telephone Numbers

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

- 1) Contain either a statement “DRAFT” or “PROPOSED AMENDMENT” on the fax cover sheet; and
- 2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is: (703) 872-9306

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431. The examiner can normally be reached on Monday-Friday, 8:00 a.m. - 4:30 p.m.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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February 27, 2004

Zandra V. Smith
Primary Examiner
Art Unit 2877